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Course name :

**Crop Production Technology-II
(ASAG 2204)**

Course credit :

(2-1-0)

Lecture 9

Topic: Oilseeds importance of
oilseeds in Indian agriculture



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The crops that are cultivated for the production of oils are known as **OILSEED CROPS**.

Oilseeds are the raw materials for vegetable oils and they are energy rich crops.

Oilseed crops are the most important commercial crops in India.

The Rapeseed and Mustard, Sesamum, Sunflower, Safflower, Linseed, Soybean, Niger, Groundnut and Castor are the most important oil seed crops of India.



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9.1 Classification:-

The oilseed crops are classified according to the nature of oil produced as follows:

9.1.1) EDIBLE OILSEED CROPS:-

The most important source of supply of edible oils are the seeds known as edible oil.

E.g., Rapeseed & mustard, sesamum, groundnut, niger, sunflower, safflower, soybean etc.

9.1.2) NON-EDIBLE OIL SEED CROPS:-

The most important source of supply of non-edible oils are the seeds known as non-edible

E.g., Castor, Linseed etc.



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9.2 Nutritional Value of Oilseeds :-

The bio-chemical composition and quality of the oilseeds and their products are important for the **food and feed** purposes.

Edible oils are the concentrated sources of energy. The energy content of oil is much higher (39.80 MJ/kg) than protein (23.88 MJ/kg) or carbohydrate (16.76 MJ/kg).

They contain useful carbohydrates, essential fatty acids and **vitamins A,D,E and K** and provide essential fatty acids.



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Oil cakes/ oil meals are rich sources of protein (40-60%) to human and animals. They can also be used as organic manures.

Oil quality for food purpose can be described in terms of **Saturated Fatty Acid (SFA), Monounsaturated Fatty Acid (MUFA) and Poly Unsaturated Fatty Acid (PUFA) .**



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Saturated Fatty Acid (SFA) - Palmitic and Stearic acid

They have direct relation with blood cholesterol and coronary heart diseases as it increases low density lipoprotein that is harmful .

Unsaturated Fatty Acid (SFA) - Oleic, Linoleic , Linolenic and Erucic acids.

Linoleic & Linolenic acids (Poly Unsaturated Fatty Acids – PUFA) are Essential fatty acids (not synthesized by human body and are to supplied from outside).

Groundnut, coconut, sesame and sunflower oils have moderate amounts of saturated fatty acid but lack in one essential fatty acid i.e. linolenic acid.

Soybean, safflower and mustard oils have both essential fatty acids as Linoleic and Linolenic acids.



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9.3 IMPORTANCE OF OIL SEED IN INDIAN ECONOMY :

In terms of vegetable oils , India is the **fourth largest** oil economy in the World after USA, China and Brazil.

The oil seeds contain **20 – 60 % oil**, which is chiefly consumed as food and energy source. They are **energy rich and cash value crops**.

Oil seed crops can serve as **pasture, cover and green manure crops**. They are also used as **fodder and for silage**.



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Vegetable oils have **medicinal and therapeutic value** and also used as laxatives. E.g., Castor, Safflower & Sunflower oil.

Safflower tea – **prevents cardiovascular diseases** and gynecological disorders. If consumed daily, it reduces blood pressure.

Certain oil seed cakes have **vermicidal action** & it is used for pest control purposes. E.g., **Mustard, Castor.**

Vegetable oils and its derivatives are **biodegradable and eco-friendly** thus they can be used as diesel substitutes.

The edible oils are used as **cooking oil, vanaspati and proteins.**